In the Drawings:

None

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# REMARKS

This amendment is in response to the Examiner's Office Action dated 9/10/2004 and further in view of the interview of 12/07/2004. Applicants are also appreciative of the professional and courteous interview held with the examiner. Applicants believe that the arguments presented in the interview and the current amendment should obviate outstanding issues and make the remaining claims allowable. Reconsideration of this application is respectfully requested in view of the foregoing amendment and the remarks that follow.

# STATUS OF CLAIMS

Claims 1-3 and 5-28 are pending.

Of the above, claims 1-3 and 5-22 are withdrawn from consideration.

Claim 26 is objected to because of the following informalities: line 2, after "signal" --is-- should be inserted.

Claims 23-28 stand rejected under 35 U.S.C. § 102(a) as being anticipated by applicant's admitted prior art.

# OVERVIEW OF CLAIMED INVENTION

The present invention provides for a moving pictures encoding method for encoding a picture frame of an input signal by predicting from both forward and backward picture frames, wherein the picture frame has top and bottom fields which respectively include odd and even numbers of pixel scanning lines of the picture frame. In one embodiment, the present invention's method comprises the steps of first predicting, in a macro-block unit composed of (n x n) pixels, the top field of the picture frame from either one of top and bottom fields of only the forward

*Page 16 of 22*

8401479l_1

picture frame, and predicting the bottom field of the picture frame from either one of top and

bottom fields of only the backward picture frame; generating a predictive picture according to the

prediction; and encoding the picture frame of the input signal by using the generated predictive

picture.

The present invention also teaches a moving picture encoding apparatus, in which a

picture frame of an input signal is encoded by predicting from both forward and backward picture

frames, wherein the picture frame has top and bottom fields which respectively include odd

numbers and even numbers of pixel scanning lines of the picture frame. In one embodiment, the

present invention's apparatus comprises a field motion vector detecting means for performing

first predicting in a macro-block unit composed of (n x n) pixels, the top field of the picture

frame from either one of top and bottom fields of only the forward picture frame, and the bottom

field of the picture frame from either one of top and bottom fields of only the backward picture

frame; a motion compensating means for generating a predictive picture according to the

prediction; and an encoding means for encoding the picture frame of an input signal using the

generated predictive picture.

In the Claims

## REJECTIONS UNDER 35 U.S.C. §102(a)

The examiner has rejected claims 23-28 under 35 U.S.C. §102(a) as being anticipated by

applicants' admitted prior art, as depicted in figures 26-31 of the application-as-filed. To be

properly rejected under 35 U.S.C. §102(a), each and every element of the claims must be

*Page 17 of 22*

disclosed in a single cited reference. Applicants contend that applicants' admitted prior art fails
to provide for many of the limitations of pending claims 23-28.

Figure 31 is representative of the prior art with regards to applicants' claimed invention.
The examiner is respectfully directed to pages 7-9 of the application-as-filed for a detailed
description of the prior art, and specifically figure 31. Provided below for the examiner's benefit
is a depiction of the prior art. In the prior art, specifically in the case of forward prediction, the
B-picture odd field generates a predictive frame using either the number 1 or 2 motion vector and
the even field generates a predictive frame using either the number 3 or 4 motion vector (see at
least page 8, lines 23-27 of the application-as-filed).



PRIOR ART

*Page 18 of 22*

84014791_1
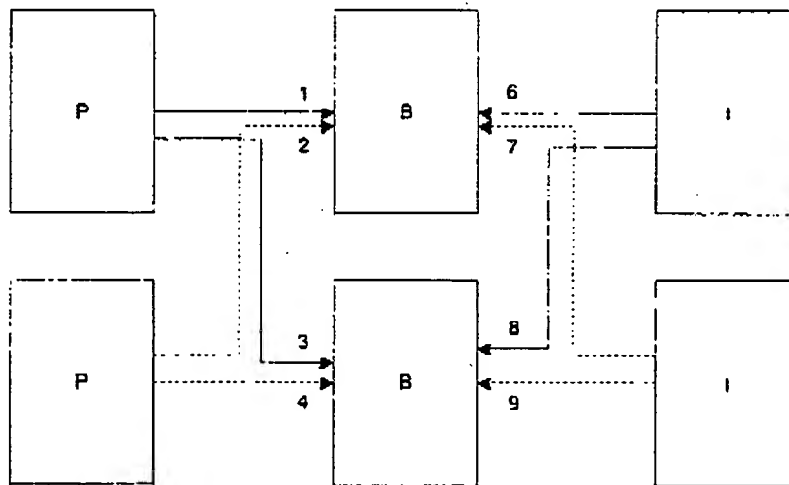
Similarly, in the case of backward prediction methods of the prior art, the odd field uses either the number 6 or 7 motion vector <u>and</u> the even field uses the number 8 or 9 motion vector (see at least page 9, lines 1-3 of the application-as-filed).

In the case of bidirectional prediction methods of the prior art, the odd field generates a reference frame by combining a forward predictive frame, generated using either number 1 or 2 motion vector <u>and</u> a backward predictive frame using either the number 6 or 7 motion vector (see at least page 9, lines 3-9 of the application-as-filed).

Accordingly, figure 31 specifies that both fields of picture B include predictive pictures combined with the forward and backward picture frames. As a result of this, if a scene change occurs between the B's of the current frame, a predictive picture is deteriorated.

The present application solves this problem by having the feature of performing the prediction in a macro-block unit composed of (n x n) pixels, to the top field of the picture frame from either one of top and bottom fields of the forward picture frame, and the bottom field of the picture frame from either one of top and bottom fields of the backward picture frame.

One embodiment of the present invention is shown in figure 1 of the application-as-filed. The examiner is respectfully directed to pages 19 of the application-as-filed for a detailed description of applicants' invention as shown in figure 1 of the application-as-filed. Provided below for the examiner's benefit is a depiction of the invention as described in claims 23-28. According to the present invention, prediction is possible when the odd field uses either the

84014791_1

number 1 or 2 motion vector AND when the even field uses either the number 8 or 9 motion

vector.
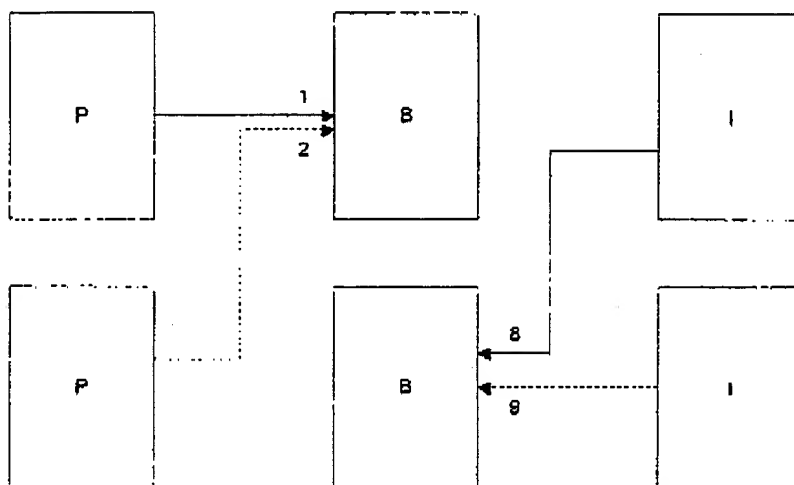


PRESENT INVENTION

In the interview of of 12/07/2004, applicants' representative pointed out the disctinctions

between the applicant admitted prior art and applicants' invention as descibed in claims 23-28.

An agreement was reached during the interview that figures 31 (prior art) and claims 23-28 were

different and the examiner encouraged the applicants to clarify claims 23-28 via minor

amendments. Based on the examiner's input, applicants have amended independent claims 23

and 26 for clarification purposes. It should be noted that the amendments were made without

adding new matter.

84014791_1

Amended independent claim 23 recites a moving pictures encoding method with prediction performed on a macro-block unit composed of nxn pixels, whererein (a) the top field of the picture frame is predicted from either the top and bottom fields of only the forward picture frame, and (b) the bottom field of the picture frame is predicted from either the top or bottom fields of only the backward picture frame. This limitation is further emphasized in the amended apparatus claim 26.

The above-presented arguments with respect to inpdependent claims 23 and 26 substantially apply to dependent claims 24-25 and 27-28 in at least that they inherit all the limitations of the claim from which they depend.

Hence, applicants contend, based on the arguments presented above and the arguments presented during the interview of 12/07/2004, that applicant admitted prior art fails to anticipate many of the limitations of pending claims 23-28.
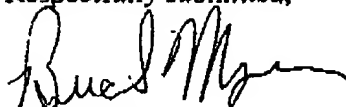
## SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of applicants' presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

*Page 21 of 22*

84014791_1

This Amendment is being filed with an Extension of Time for two months. The

Commissioner is hereby authorized to charge the extension fee, as well as any deficiencies in the

fees provided to Deposit Account No. 50-1290.

If it is felt that an interview would expedite prosecution of this application, please do not

hesitate to contact applicants' representative at the below number.

Respectfully submitted,

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